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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|--------------------------------|------------------|
| 09/681,941 | 06/28/2001 | Michael John Davis | 60LT01103 | 1253 |
| 23413 | 7590 | 11/24/2004 | | |
| CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 | | | EXAMINER ROBERTSON, JEFFREY | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1712 | |

DATE MAILED: 11/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/681,941

Applicant(s)

DAVIS ET AL.

Examiner

Jeffrey B. Robertson

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28,33-35,38 and 39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12,13,18,19 and 22 is/are allowed.
- 6) ☒ Claim(s) 1-11,14-17,20,21,23-28,33-35,38 and 39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/20/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed on March 5, 2003 and resubmitted on September 20, 2004 has been considered. It is noted that there are several X references indicated on the international search report. Specifically, EP 0 537 005 A, WO 01-25358 A, US 5,308,565, and US 4,954,195 are cited as X references. However, those references were indicated to be X references for claims 36 and 37, which were withdrawn as a result of a restriction requirement and have been cancelled. Therefore, the references do not teach or suggest any of the pending claims. EP 1,167,484 previously considered, is not prior art against the present application since it was published after the filing date of the present application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-11, 14-17, 20, 21, 23-28, 33-35, 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clough (U.S. Patent No. 6,518,362) in view of Mizuno et al. (U.S. Patent No. 5,017,663).

The reference teaches a curable composition comprising polyarylene ether, uncured epoxy resin, and a compatibilizer that includes functionalized block copolymers

comprising styrene including maleated Kraton polymers. See col. 3, line 20 through col. 5, line 25 and col. 9, lines 39-58. The compositions are prepared by melt blending the components at low temperature so as to not cure the epoxy resin. See col. 10, line 44 through col. 11, line 10. As suggested by the reference, it would have been obvious to combine a polyarylene ether, epoxy resin, a maleated block copolymer comprising styrene Kraton compatibilizer and aromatic polyamine curing agent by melt blending at low temperature to obtain a curable molding composition. Variation in order of addition of components and blending temperature would have been obvious modifications to one of ordinary skill in the art in order to obtain the blend with uncured epoxy resin when using the amine curing agents.

Mizuno teaches compatibilized polymer blends containing polyphenylene ether resins, epoxy resins, and styrene containing compatibilizers. See col. 2, lines 24-61, col. 13, lines 1-25, and col. 16, line 52 through col. 17, line 15. In columns 23-24, Table 3, Mizuno teaches that maleated styrene block copolymers are used where the block copolymer is maleated styrene-butadiene-styrene. The maleated copolymer are Krayton polymers.

Mizuno and Clough are analogous art in that they both come from the same field of endeavor, namely thermoplastic polyphenylene ether compositions that contain block copolymers and epoxy resins.

It would have been obvious to one of ordinary skill in the art to use the specific maleated copolymers set forth in Mizuno in the compositions of Clough. The motivation would have been that Clough teaches a genus of functionalized block copolymers

comprising styrene including maleated Kraton polymers. One of ordinary skill in the art would have turned to Mizuno for specific species to use for maleated Kraton polymers.

Response to Arguments

4. Applicant's arguments with respect to the combination of the Mallikarjun reference with the Clough reference are largely moot due to the new grounds of rejection set forth above. However, to the extent that some of applicant's arguments would be relevant to the rejection set forth above, the examiner disagrees. Specifically, applicant argues at the end of the paragraph bridging pages 19 and 20 of the response, that the combination of references does not provide any expectation of the poly(arylene ether) remaining finely dispersed in the thermosetting resin at temperatures suitable for the use of amine curing agents. However, this limitation is not present in the claims and therefore applicant's argument is not persuasive.

Applicant argues that the office action in correctly characterizes "styrene-ethylene-butylene-styrene" block copolymers as not excluding functional styrene-ethylene-butylene-styrene block copolymers. Applicant points to the language in the claims where the butadiene-acrylonitrile copolymers are specifically indicated as being functionalized and that this language would not be necessary if the recitation of butadiene-acrylonitrile copolymers included functionalized copolymers. The examiner disagrees. The specific recitation of functionalized butadiene-acrylonitrile copolymers limits the copolymers to the functionalized variety. If functionalized did not appear

before the recitation, unfunctionalized butadiene-acrylonitrile copolymers would also be included. Therefore, applicant's argument is unpersuasive.

Last, applicant argues that applicant may be their own lexicographer, and that applicant's recitation specifically excludes functionalized copolymers. However, there is no clear recitation in the specification that functionalized copolymers may be excluded. In order for applicant to rely on this argument, a clear recitation of applicant's specific definition must be made in the specification, which is not the case here. See MPEP §§ 2111.0, 2173.05(a): While the claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re American Academy of Science Tech Center*, 2004 WL 1067528 (Fed. Cir. May 13, 2004)(The USPTO uses a different standard for construing claims than that used by district courts; during examination the USPTO must give claims their broadest reasonable interpretation.). This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322(Fed. Cir. 1989); *Chef America, Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1372, 69 USPQ2d 1857 (Fed. Cir. 2004). Consistent with the well-established axiom in patent law that a patentee or applicant is free to be his or her own lexicographer, a patentee or applicant may use terms in a manner contrary to or inconsistent with one or more of their ordinary meanings if the written description clearly redefines the terms. See, e.g., *Process Control Corp. v.*

HydReclaim Corp., 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999)("While we have held many times that a patentee can act as his own lexicographer to specifically define terms of a claim contrary to their ordinary meaning," in such a situation the written description must clearly redefine a claim term "so as to put a reasonable competitor or one reasonably skilled in the art on notice that the patentee intended to so redefine that claim term.").

Allowable Subject Matter

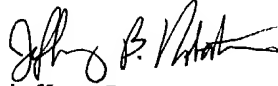
5. Claims 12, 13, 18, 19, and 22 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey B. Robertson whose telephone number is (571) 272-1092. The examiner can normally be reached on Mon-Fri 7:00-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jeffrey B. Robertson
Primary Examiner
Art Unit 1712

JBR